CLAIMS

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1. A vinyl polymer having at least one terminal group of the general formula (1) per molecule; $-OC(O)C(R)=CH_{2}$ (1)

wherein R represents hydrogen or an organic group containing 1 to 20 carbon atoms.

The vinyl polymer according to Claim 1
 wherein R is hydrogen or a hydrocarbon group of 1 to 20 carbon atoms.

3. The vinyl polymer according to Claim 1 or 2 wherein R is hydrogen or a methyl group.

4. The vinyl polymer according to any of Claim 1 to 3, which is a (meth) acrylic polymer.

5. The vinyl polymer according to Claim 4, which is an acrylic ester polymer.

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which is a styrenic polymer.

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7. The vinyl polymer according to any of Claims 1 to - Claim \(\text{Var} \) which is obtainable by living radical polymerization.

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- 8. The vinyl polymer according to Claim 7 wherein said living radical polymerization is atom transfer radical polymerization.
 - 9. The vinyl polymer according to Claim 8 wherein the transition metal complex catalyst for said

atom transfer radical polymerization is selected from among complexes of copper, nickel, ruthenium or iron.

10. The vinyl polymer according to Claim 9 wherein said transition metal complex is a copper complex.

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11. The vinyl polymer according to any of Claims 1 to

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which is obtainable by the polymerization of a vinyl monomer using a chain transfer agent.

12. The vinyl polymer according to any of Claims to

which is obtainable by reacting an olefin polymer having a terminal structure represented by the general formula (2) with a compound represented by the general formula (3):

-CR¹R²X

-CR'R'X
wherein R1:

wherein R^1 and R^2 each represents a group attached to the ethylenically unsaturated group of the vinyl monomer; X represents chlore, bromo or iodo,

 $M^{+-}OC(O)C(R) = CH_2$ (3)

wherein R represents hydrogen or an organic group containing 1 to 20 carbon atoms; M^{\dagger} represents an alkali metal or quaternary ammonium ion.

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13. The vinyl polymer according to any of Claims 1 to
which is obtainable by reacting a hydroxy torning to

which is obtainable by reacting a hydroxy-terminated vinyl polymer with a compound of the general formula (4): $XC(0)C(R)=CH_2$ (4)

wherein R represents halogen or an organic group containing 1 to 20 carbon atoms; X represents chloro, bromo, or a hydroxyl group.

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14. The vinyl polymer according to any of Claims 1 to

which is obtainable by reacting a hydroxy-terminated vinyl polymer with a disocyanate compound and further causing the residual isocyanate group to react with a compound of the general formula (5):

 $HO-R'-OC(O)C(R)=C_{2}$ (5)

wherein R represents hydrogen or an organic group containing 1 to 20 carbon atoms; R' represents a bivalent organic group containing 2 to 20 carbon atoms.

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15. The vinyl polymer according to any of Claims 12 to

where in R is hydrogen or a hydrocarbon group of 1 to 20 carbon atoms.

16. The vinyl polymer according to Claim 15 wherein R is hydrogen or a methyl group.

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17. The vinyl polymer according to any of claims 1 to

the number average molecular weight of which is not less than 3000.

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18. The vinyl polymer according to any of Claims $\frac{1}{4}$ to $\frac{17}{5}$ C(u)m \

wherein the ratio of weight average molecular weight (Mw) to number average molecular weight (Mn) as determined by gel permeation chromatography [Mw/Mn] is less than 1.8.

- 19. A curable composition comprising the vinyl polymer according to any of claims 1 to 18.
- 20. The curable composition according to Claim 19
 35 comprising a radical-polymerizable group-containing monomer

21. The curable composition according to Claim 19 comprising an anionic-polymerizable group-containing monomer and/or oligomer.

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22. The curable composition according to Claim 20 or 21-comprising a (meth)acryloyl group-containing monomer and/or oligomer.

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23. The curable composition according to Claim 22 comprising a monomer and/or oligomer containing a (meth)acryloyl group and having a number average molecular weight of not more than 2000.

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The curable composition according to any of Claims

which is curable by means of actinic ray.

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- 25. The curable composition according to Claim 24 comprising a photopolymerization initiator.
- 26. The curable composition according to Claim 25 wherein said photopolymerization initiator is a25 photoradical initiator.
 - 27. The curable composition according to Claim 25 wherein said photopolymerization initiator is a photoanion initiator.

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The curable composition according to any of Claims

which is curable by heating.

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29. The curable composition according to Claim 28

wherein a thermopolymerization initiator is selected from the group consisting of an azo initiator, a peroxide, a persulfate and a redox initiator.

30. An aqueous emulsion comprising the vinyl polymer according to any of Claims 1 to 18.

31. An aqueous emulsion comprising the curable composition according to any of Claims 19 to 29.

32. A method of protecting a substrate which comprises covering the substrate with the aqueous emulsion according to Claim 31 and curing the emulsion in situ.

33. A pressure sensitive adhesive composition comprising the curable composition according to any of Claims 19 to 29 or the aqueous emulsion according to Claim 31.

34. A pressure sensitive adhesive obtainable from the pressure sensitive adhesive composition according to Claim 33.

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